

Appl. No.10/502,117
Reply to Office Action of March 7, 2006

REMARKS

Applicants note that the Examiner indicated in the March 7, 2006 Office Action that the drawings filed on September 30, 2005 were objected to. However, the Examiner failed to indicate what aspect of the amended drawings the Examiner objected to in the text of the rejected. Accordingly, Applicants respectfully request the Examiner indicate what objections to the drawings remain.

Applicants have added new claims 18 and 19 in order to alternately define the invention. Support for these claims can be found in Figure 18 and the supporting text.

In regard to the Examiner's rejection of claim 17 under 35 U.S.C. §112, Applicants have amended the claim in order to more clearly point out the structure of the invention. The amended language is in accordance with the structure disclosed in Figure 19, which shows two ground layers 55 and 57, each being disposed between respective woven glass fiber substrates 54 and 52 and the one or more wiring layers, and wherein no glass fiber is formed below the ground layer 55 isolating the organic substrate 54 in an area where a resonator, filter, or coupler is formed, and no glass fiber is formed above the ground layer 57 isolating the organic substrate 52 in an area where a resonator, filter, or coupler is formed.

Applicants respectfully request reconsideration of Examiner's rejection of claims 1 - 3 under 35 U.S.C. §102(e). Examiner has rejected these claims in view of the cited prior art reference of *Kubota et al.* (U.S. Patent No. 6,183,669). However, Applicants submit that claims 1 - 3 are allowable over the cited prior

BEST AVAILABLE COPY

Appl. No.10/502,117
Reply to Office Action of March 7, 2006

art reference for at least the reason that *Kubota* fails to teach or suggest an organic substrate and organic insulative layer formed from among liquid crystal polymer, benzocyclobutene, polyimide, polynorbornen, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, or any one of these organic materials also having a ceramic powder dispersed therein.

The Examiner, in the last Office Action, failed to cite to this limitation in his or her rejection at all. Rather, the Examiner simply stated that the prior art showed "the organic insulative layer is formed from any one of these organic materials having a ceramic powder dispersed therein..." (See Page 3 of the March 7, 2006 Office Action). However, only the last element of the claim mentions a ceramic powder. The Examiner has failed to consider the limitation immediately preceding that.

More specifically, claim 1 clearly requires that the organic layer be formed from among: liquid crystal polymer, benzocyclobutene, polyimide, polynorbornen, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, liquid crystal polymer having a ceramic powder dispersed therein, benzocyclobutene having a ceramic powder dispersed therein, polyimide having a ceramic powder dispersed therein, polynorbornen having a ceramic powder dispersed therein, polyphenylether having a ceramic powder dispersed therein, polytetrafluoroethylene having a ceramic powder dispersed therein, or bismaleimide-triazine having a ceramic powder dispersed therein.

Applicants note that the Court of Appeals for the Federal Circuit has held that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art

BEST AVAILABLE COPY

Appl. No.10/502,117
Reply to Office Action of March 7, 2006

reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Here, Applicants submit that the cited art fails to teach or suggest the limitation wherein the organic layer be formed from among: liquid crystal polymer, benzocyclobutene, polyimide, polynorbornen, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, liquid crystal polymer having a ceramic powder dispersed therein, benzocyclobutene having a ceramic powder dispersed therein, polyimide having a ceramic powder dispersed therein, polynorbornen having a ceramic powder dispersed therein, polyphenylether having a ceramic powder dispersed therein, polytetrafluoroethylene having a ceramic powder dispersed therein, or bismaleimide-triazine having a ceramic powder dispersed therein.

For at least this reason, Applicants submit that claims 1 – 3 are allowable over the cited art of record, and respectfully request the Examiner withdraw the 35 U.S.C. §102 rejection, and place these claims in condition for allowance.

Applicants respectfully request reconsideration of Examiner's rejection of claims 5 – 6, 8 – 9, 11 – 12, and 14 under 35 U.S.C. §102(b). Examiner has rejected these claims in view of the cited prior art reference of *Geller et al.* (U.S. Patent No. 5,929,510). Applicant's submit that for at least the reason that *Geller* fails to teach or suggest an organic substrate and organic insulative layer formed from among: liquid crystal polymer, benzocyclobutene, polyimide, polynorbornen, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, liquid crystal polymer having a ceramic powder dispersed therein, benzocyclobutene having a ceramic powder dispersed therein, polyimide having a

BEST AVAILABLE COPY

Appl. No.10/502,117
Reply to Office Action of March 7, 2006

ceramic powder dispersed therein, polynorbornen having a ceramic powder dispersed therein, polyphenylether having a ceramic powder dispersed therein, polytetrafluoroethylene having a ceramic powder dispersed therein, or bismaleimide-triazine having a ceramic powder dispersed therein, these claims are also in condition for allowance.

Applicants note that the portion of *Geller* to which the Examiner cites, namely Column 2, lines 14 – 16, clearly teach the use of an inorganic dielectric material only, and fails to teach or suggest the use of an organic insulative material as claimed.

Accordingly, Applicants respectfully request Examiner withdraw the rejection and place these claims in condition for allowance.

In regard to the Examiner's rejection of claims 7 and 13 over *Geller* '510 in view of *Kamimura* '112, Applicants submit that, for at least the reasons stated above, none of the cited references teach or suggest the currently claimed invention. More specifically, *Kamimura* fails to compensate for the failed teachings of the *Geller* reference noted above. Accordingly, Applicants respectfully request Examiner withdraw the rejection and place these claims in condition for allowance.

In regard to the Examiner's rejection of claims 16 and 17 under *Geller* '510 in view of AAPA, Applicants submit that, for at least the reasons stated above, none of the cited references teach or suggest the currently claimed invention. More specifically, AAPA fails to compensate for the failed teachings of the *Geller* reference noted above. What's more, Applicants submit that *Geller* actually teaches away from any such combination, as it clearly teaches the use of a purely

Appl. No 10/502,117
Reply to Office Action of March 7, 2006

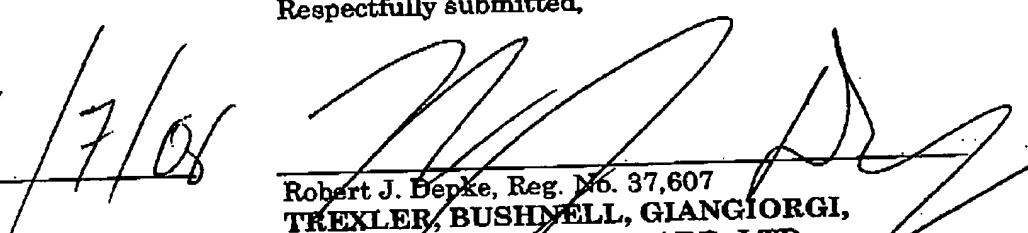
inorganic dielectric material, while Applicants' claims require an organic material. Furthermore, neither Geller nor AAPA teach or suggest the use of a ground plane formed between the wiring layers and the substrate in order to electrically isolate the wirings from the glass fiber. More specifically, prior art structures had the problem that while a ground plane 149 was formed on one side of the woven glass fiber layers, the wirings 152 were still negatively impacted by the lack of a grounding layer on the other side of the woven glass fiber layer. (See pages 14 – 15 of Applicant's Disclosure). Applicants have amended the claims in order to clarify this distinction.

Accordingly, Applicants respectfully request Examiner withdraw the rejection and place these claims in condition for allowance.

Examiner's remaining references cited but not relied upon, considered either alone or in combination, also fail to teach applicant's currently claimed invention. In light of the foregoing, Applicants respectfully submit that all claims now stand in condition for allowance.

Respectfully submitted,

Date: 6/7/06


Robert J. Depke, Reg. No. 37,607
TREXLER, BUSHNELL, GIANGIORGI,
BLACKSTONE & MARR, LTD.
105 W. Adams, 36th Floor
Chicago, Illinois 60603
Tel: (312) 704-1890
Attorneys for Applicant

13 of 13

BEST AVAILABLE COPY